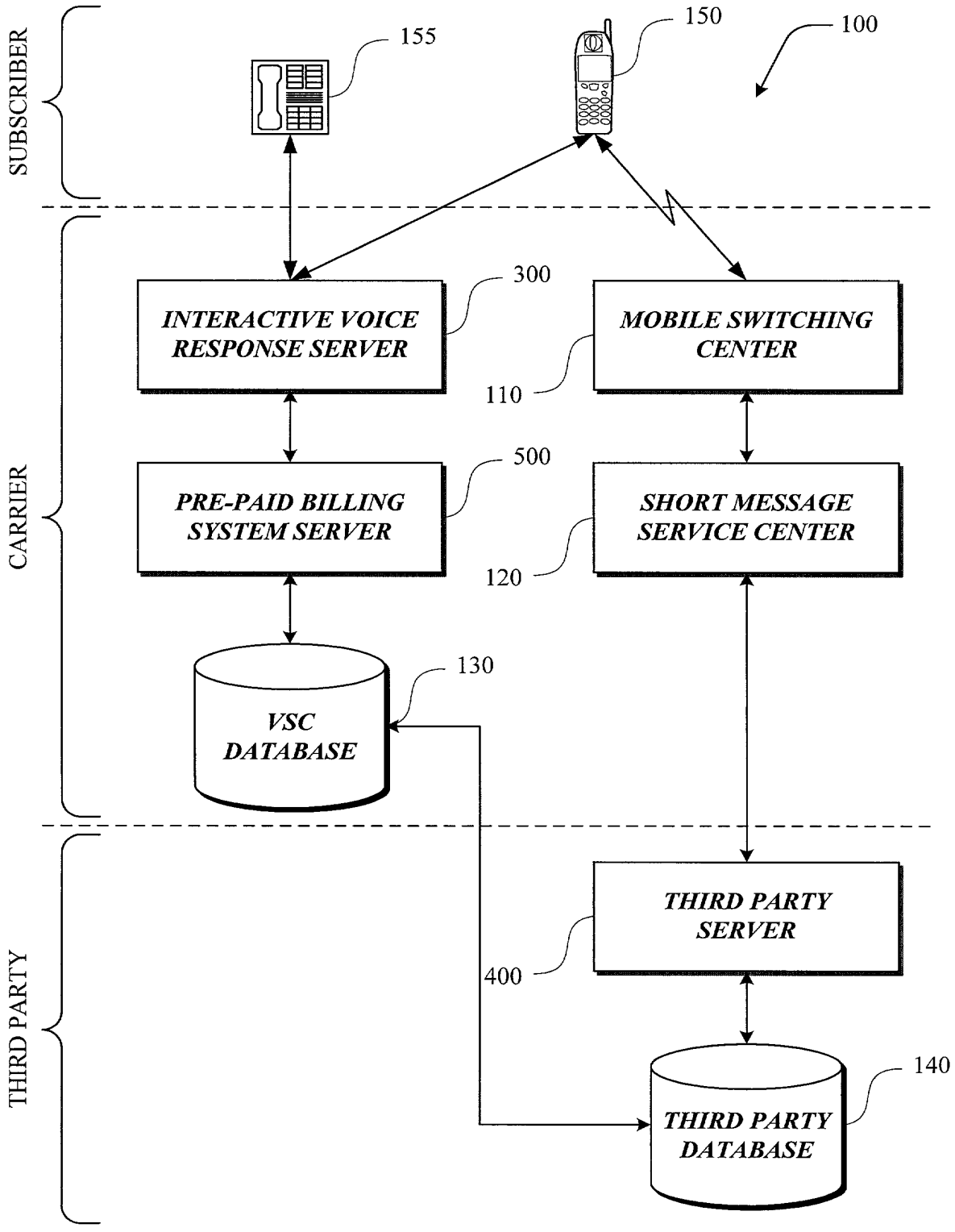
SUBSCRIBER
CARRIER
THIRD PARTY
155
150
100
300
INTERACTIVE VOICE RESPONSE SERVER
MOBILE SWITCHING CENTER
110
500
PRE-PAID BILLING SYSTEM SERVER
SHORT MESSAGE SERVICE CENTER
120
130
VSC DATABASE
THIRD PARTY SERVER
400
140
THIRD PARTY DATABASE

Fig.1.

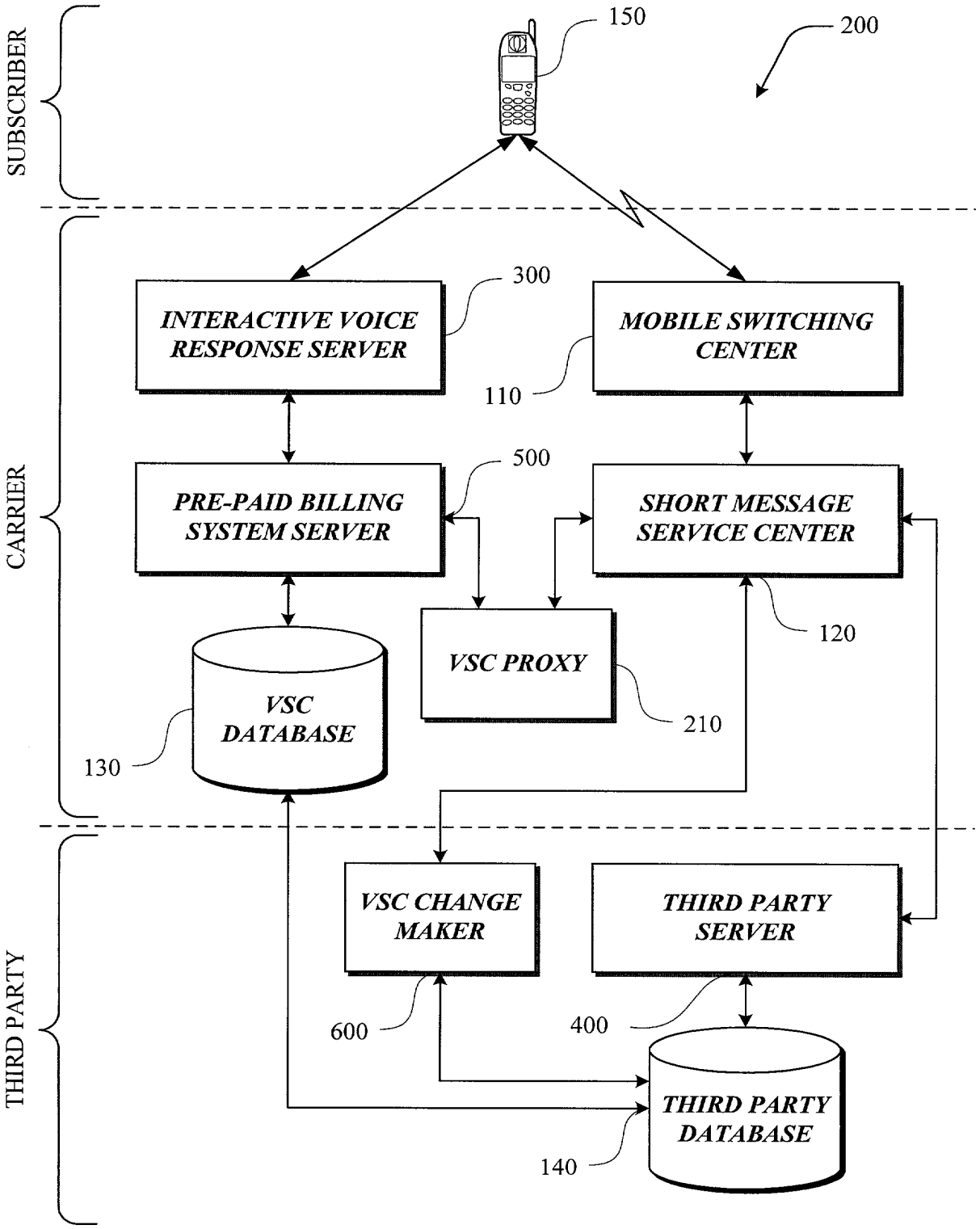
SUBSCRIBER
CARRIER
THIRD PARTY
150
200
INTERACTIVE VOICE RESPONSE SERVER
300
MOBILE SWITCHING CENTER
110
PRE-PAID BILLING SYSTEM SERVER
500
SHORT MESSAGE SERVICE CENTER
120
VSC PROXY
210
VSC DATABASE
130
VSC CHANGE MAKER
600
THIRD PARTY SERVER
400
THIRD PARTY DATABASE
140

Fig.2.

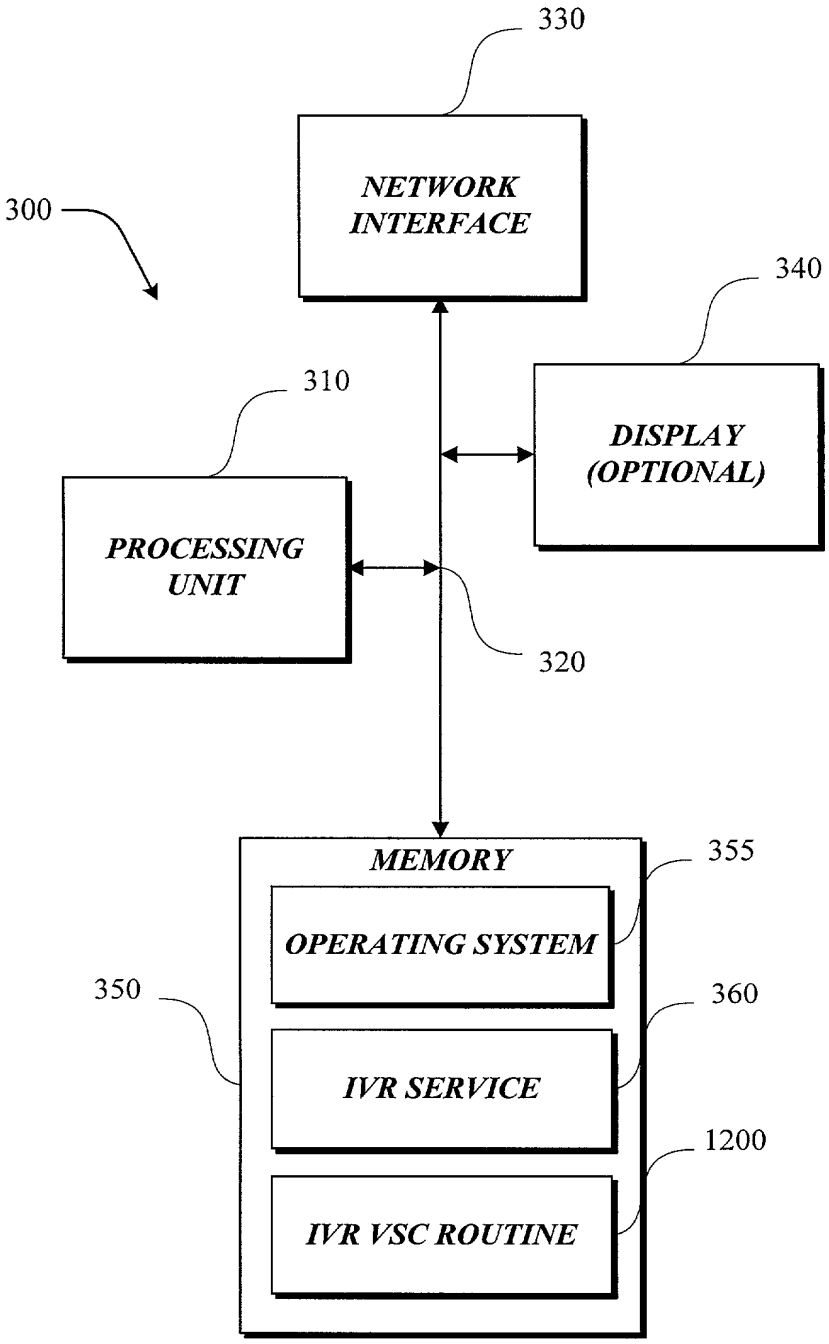
330
NETWORK INTERFACE
300
340
310
DISPLAY (OPTIONAL)
PROCESSING UNIT
320
MEMORY
355
OPERATING SYSTEM
350
360
IVR SERVICE
1200
IVR VSC ROUTINE

Fig.3.

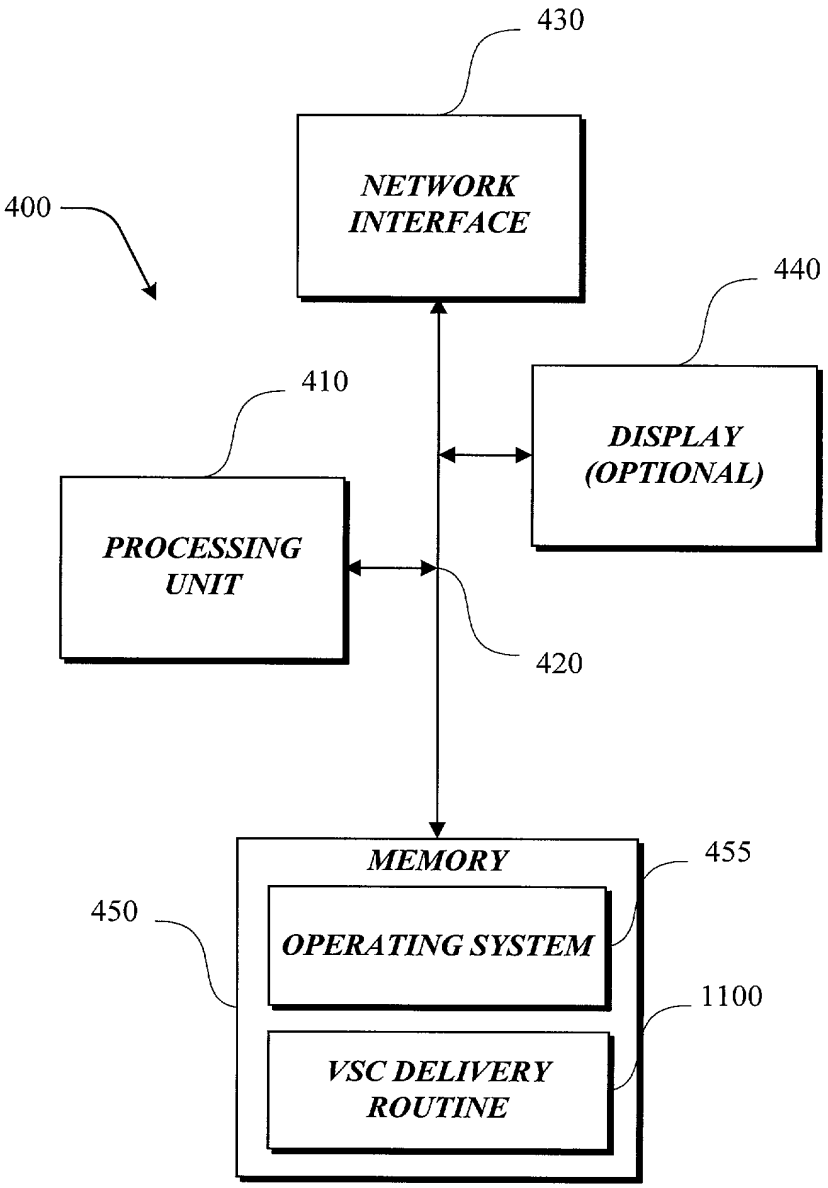
430
NETWORK INTERFACE
400
440
410
DISPLAY (OPTIONAL)
PROCESSING UNIT
420
MEMORY
455
450
OPERATING SYSTEM
1100
VSC DELIVERY ROUTINE

Fig.4.

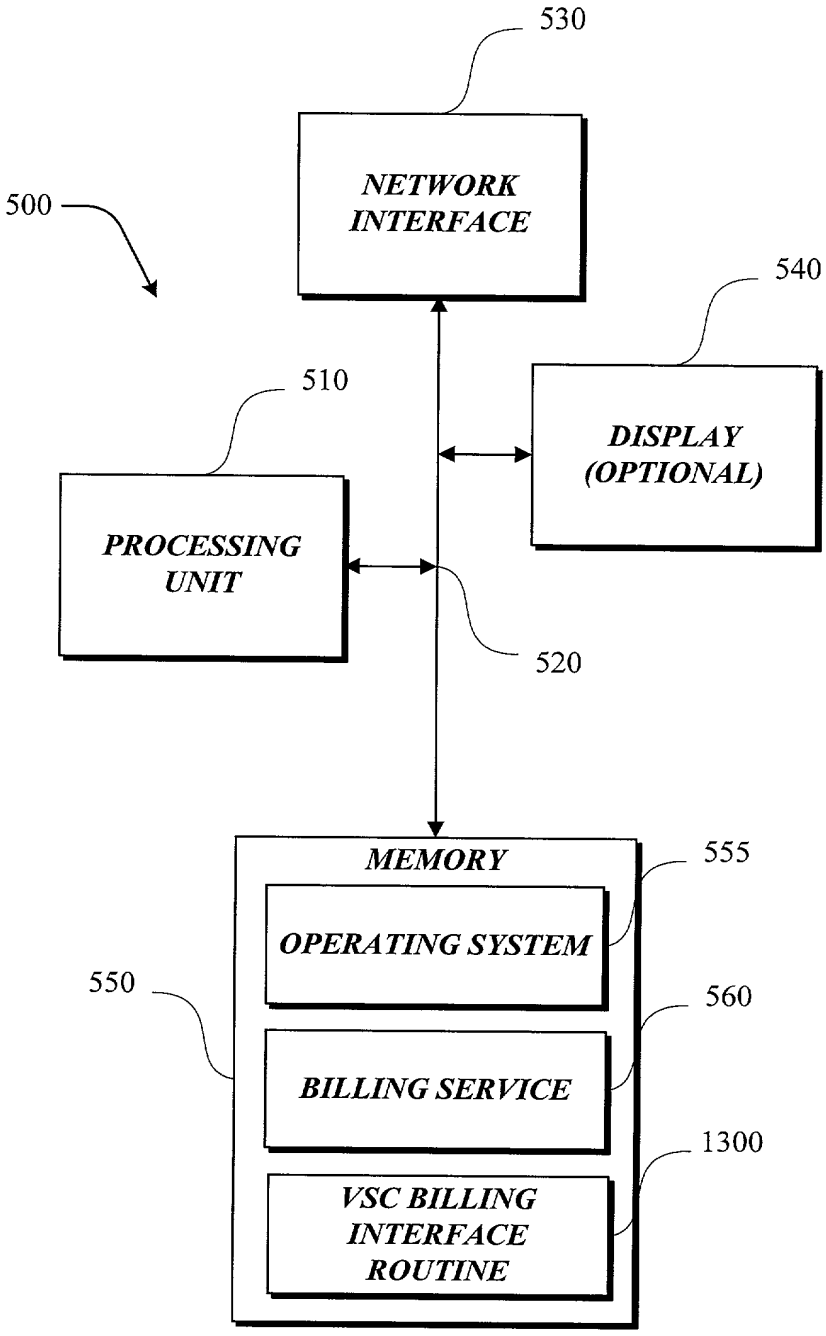
530
NETWORK INTERFACE
500
540
510
DISPLAY (OPTIONAL)
PROCESSING UNIT
520
MEMORY
555
OPERATING SYSTEM
550
560
BILLING SERVICE
1300
VSC BILLING INTERFACE ROUTINE

Fig.5.

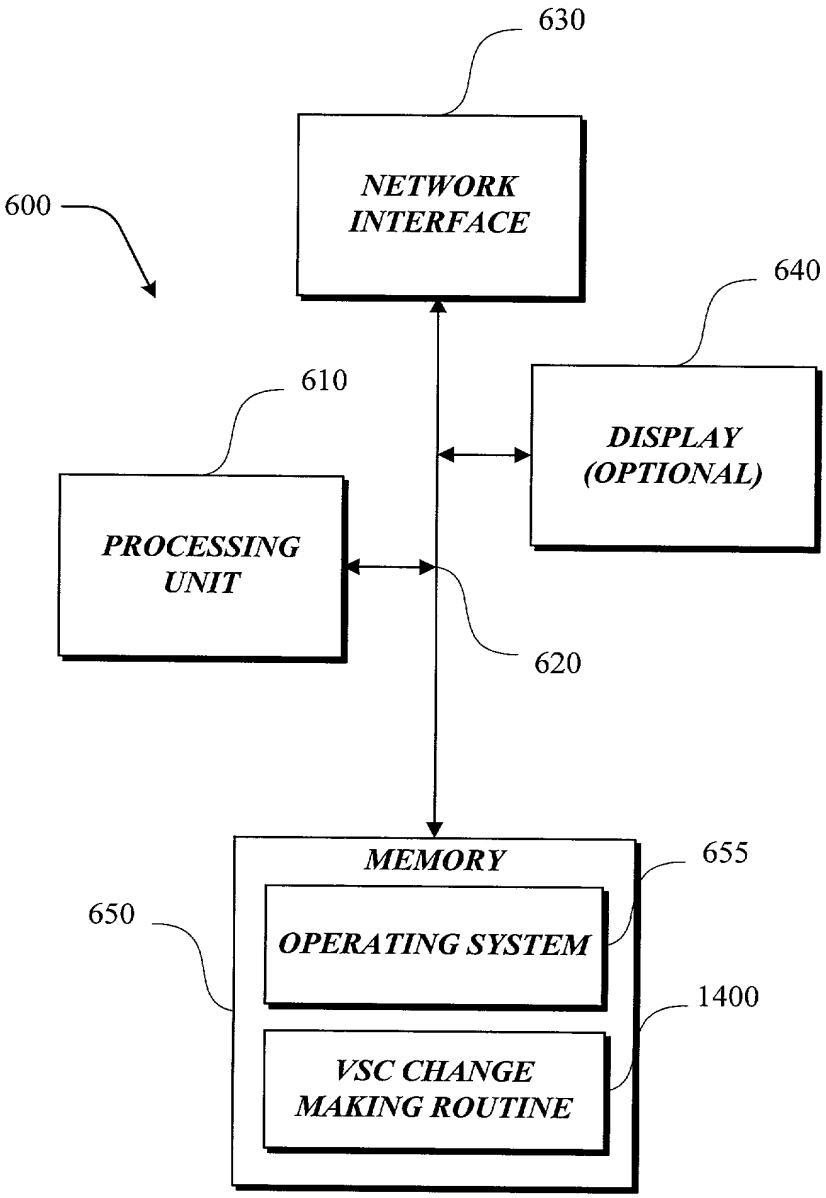
630
NETWORK INTERFACE
600
640
610
DISPLAY (OPTIONAL)
PROCESSING UNIT
620
MEMORY
655
650
OPERATING SYSTEM
1400
VSC CHANGE MAKING ROUTINE

Fig.6.

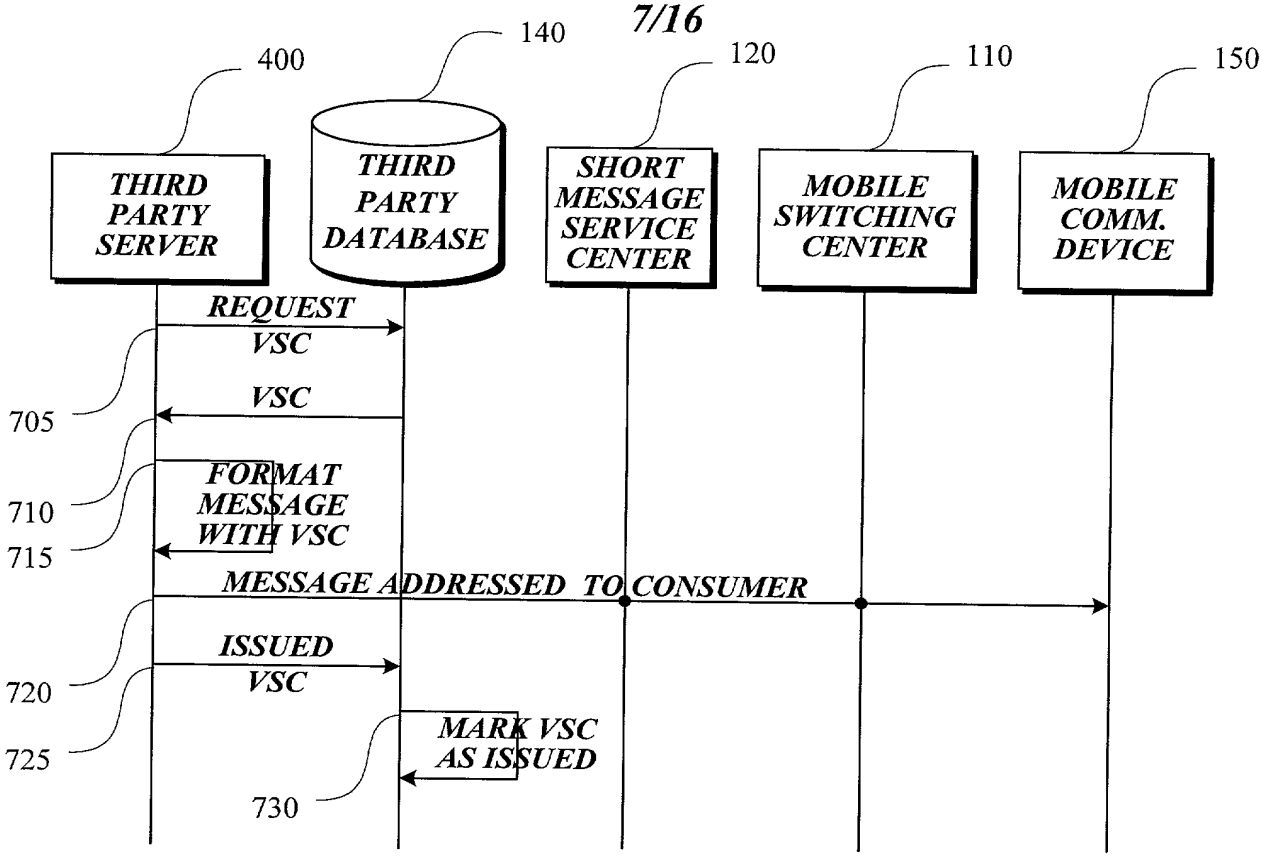
400
140
120
110
150
THIRD PARTY SERVER
THIRD PARTY DATABASE
SHORT MESSAGE SERVICE CENTER
MOBILE SWITCHING CENTER
MOBILE COMM. DEVICE
REQUEST VSC
VSC
705
FORMAT MESSAGE WITH VSC
710
715
MESSAGE ADDRESSED TO CONSUMER
ISSUED VSC
720
725
MARK VSC AS ISSUED
730

Fig. 7.

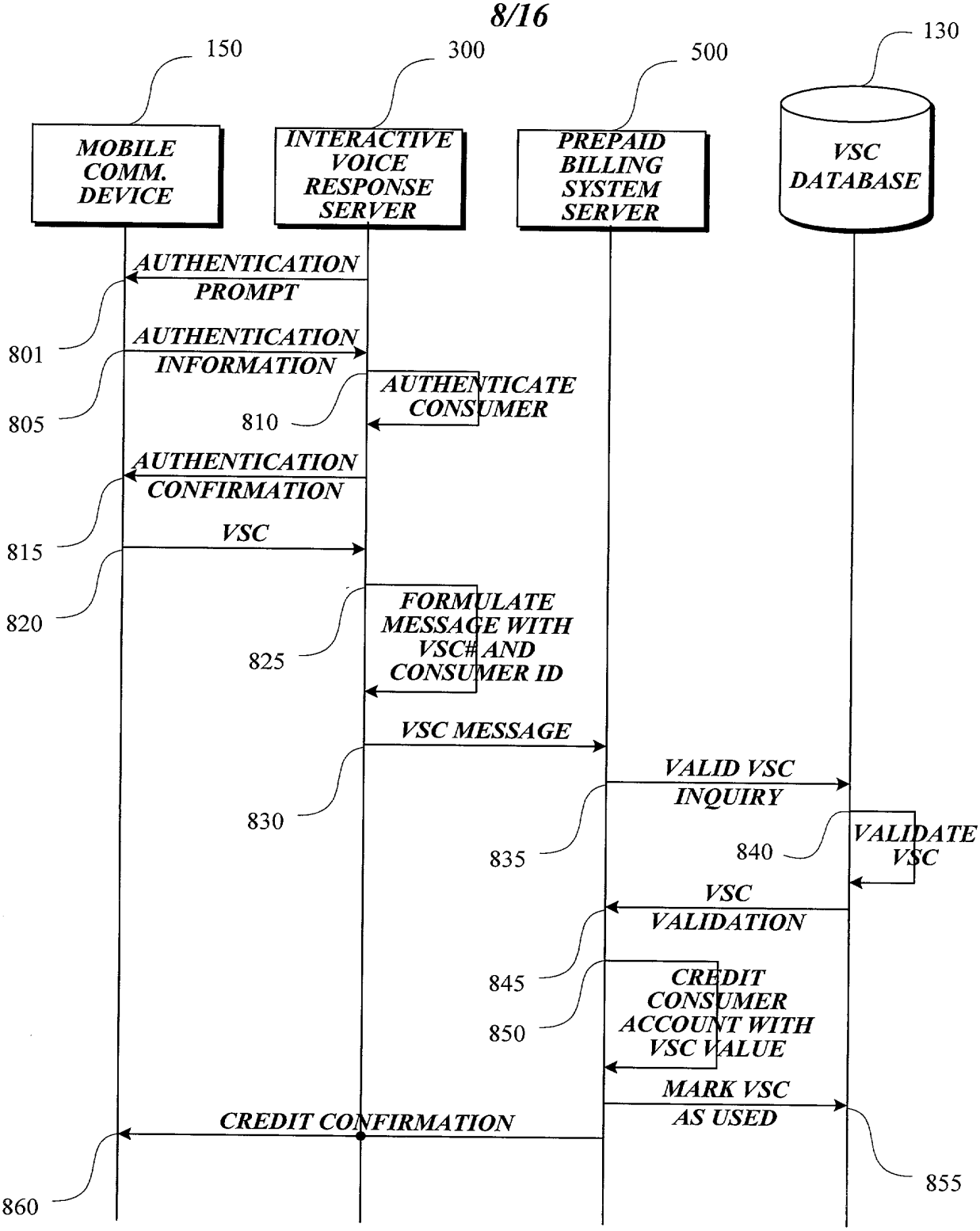
150
300
500
130
MOBILE COMM. DEVICE
INTERACTIVE VOICE RESPONSE SERVER
PREPAID BILLING SYSTEM SERVER
VSC DATABASE
AUTHENTICATION PROMPT
801
AUTHENTICATION INFORMATION
805
AUTHENTICATE CONSUMER
810
AUTHENTICATION CONFIRMATION
815
VSC
820
FORMULATE MESSAGE WITH VSC# AND CONSUMER ID
825
VSC MESSAGE
830
VALID VSC INQUIRY
835
VALIDATE VSC
840
VSC VALIDATION
845
CREDIT CONSUMER ACCOUNT WITH VSC VALUE
850
MARK VSC AS USED
855
CREDIT CONFIRMATION
860

Fig.8.

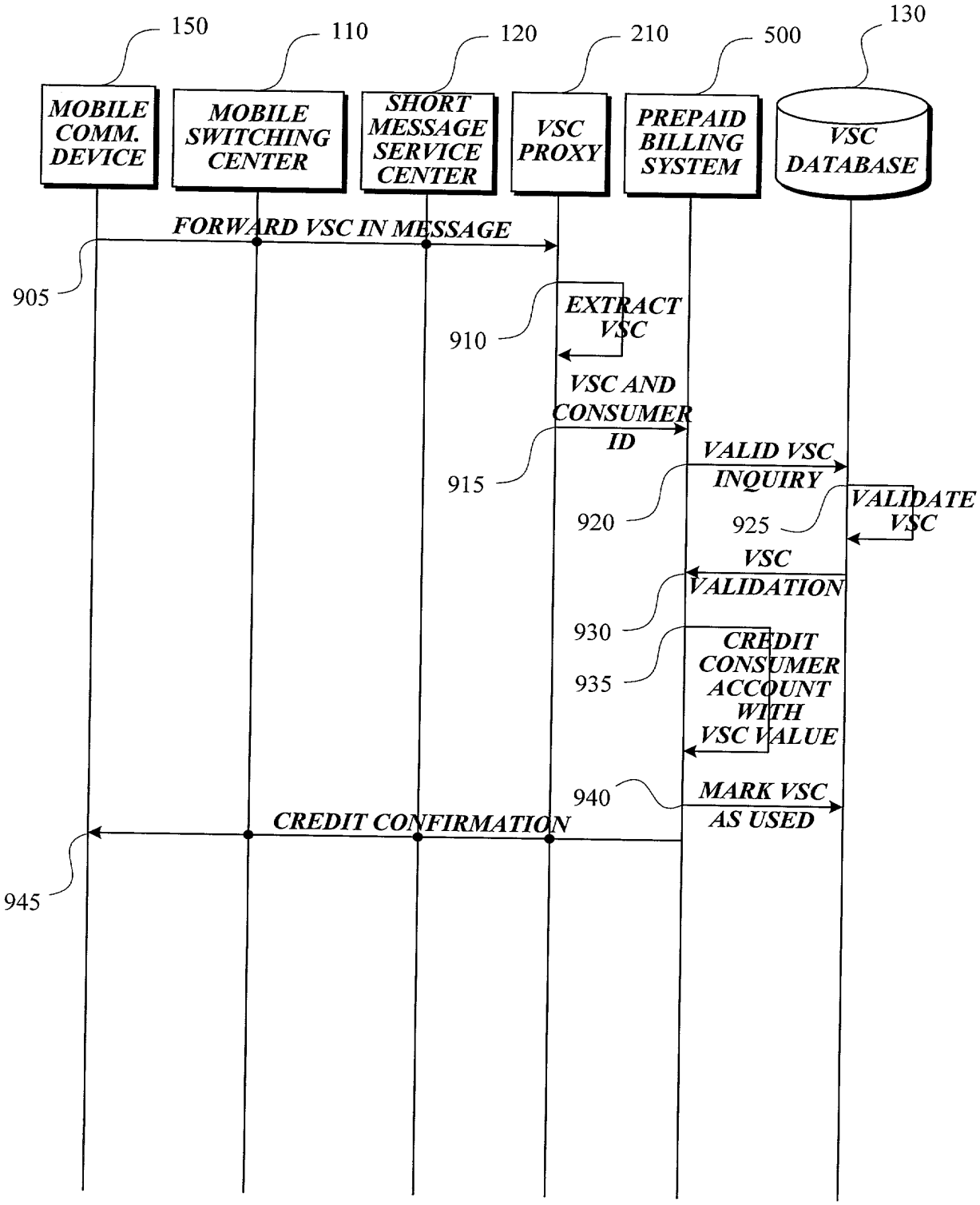
150
110
120
210
500
130
MOBILE COMM. DEVICE
MOBILE SWITCHING CENTER
SHORT MESSAGE SERVICE CENTER
VSC PROXY
PREPAID BILLING SYSTEM
VSC DATABASE
FORWARD VSC IN MESSAGE
905
EXTRACT VSC
910
VSC AND CONSUMER ID
915
VALID VSC INQUIRY
920
VALIDATE VSC
925
VSC VALIDATION
930
CREDIT CONSUMER ACCOUNT WITH VSC VALUE
935
MARK VSC AS USED
940
CREDIT CONFIRMATION
945

Fig. 9.

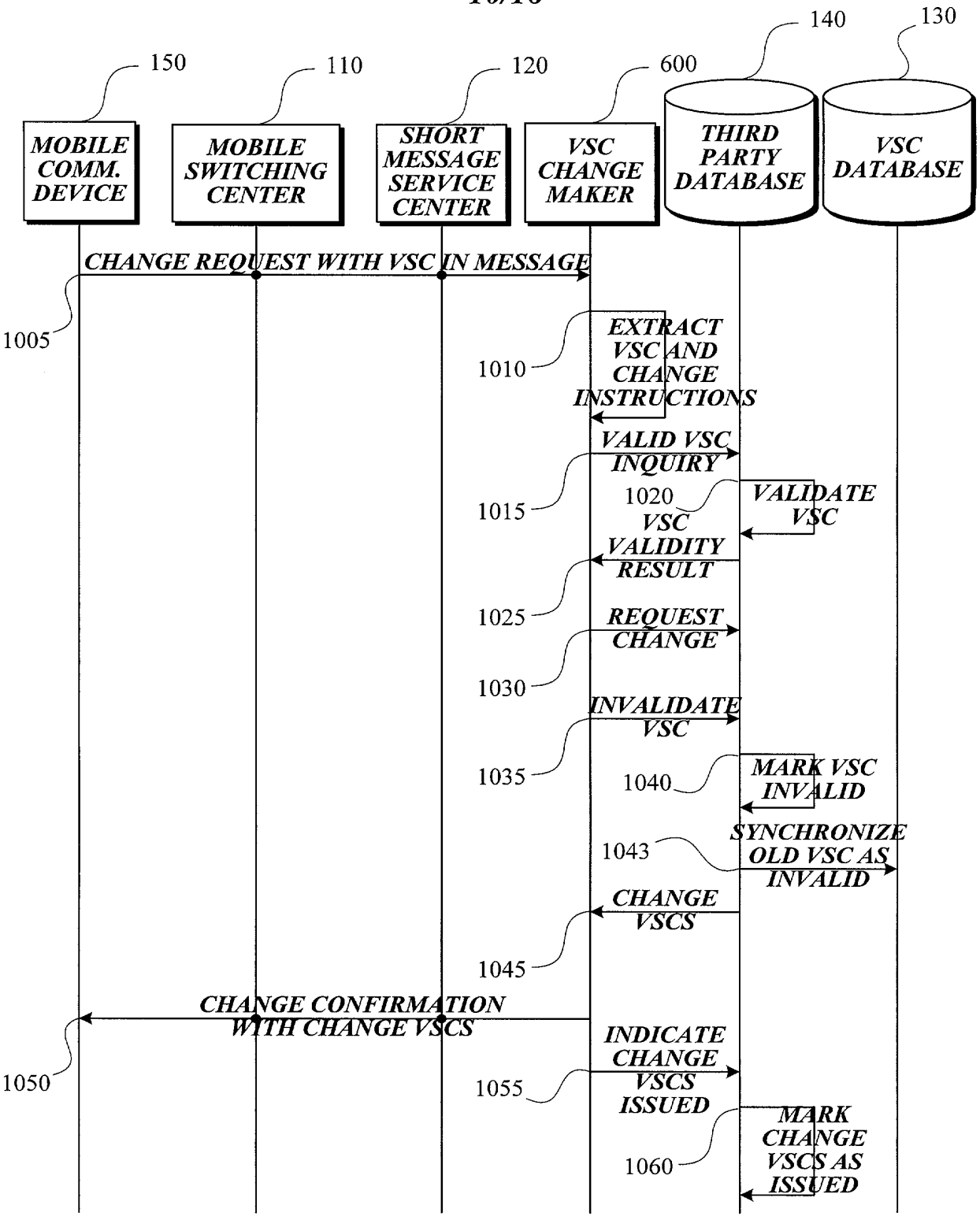
150
110
120
600
140
130
MOBILE COMM. DEVICE
MOBILE SWITCHING CENTER
SHORT MESSAGE SERVICE CENTER
VSC CHANGE MAKER
THIRD PARTY DATABASE
VSC DATABASE
CHANGE REQUEST WITH VSC IN MESSAGE
1005
1010
EXTRACT VSC AND CHANGE INSTRUCTIONS
VALID VSC INQUIRY
1015
1020
VALIDATE VSC
VSC VALIDITY RESULT
1025
REQUEST CHANGE
1030
INVALIDATE VSC
1035
1040
MARK VSC INVALID
1043
SYNCHRONIZE OLD VSC AS INVALID
CHANGE VSCS
1045
CHANGE CONFIRMATION WITH CHANGE VSCS
1050
INDICATE CHANGE VSCS ISSUED
1055
1060
MARK CHANGE VSCS AS ISSUED

Fig.10.

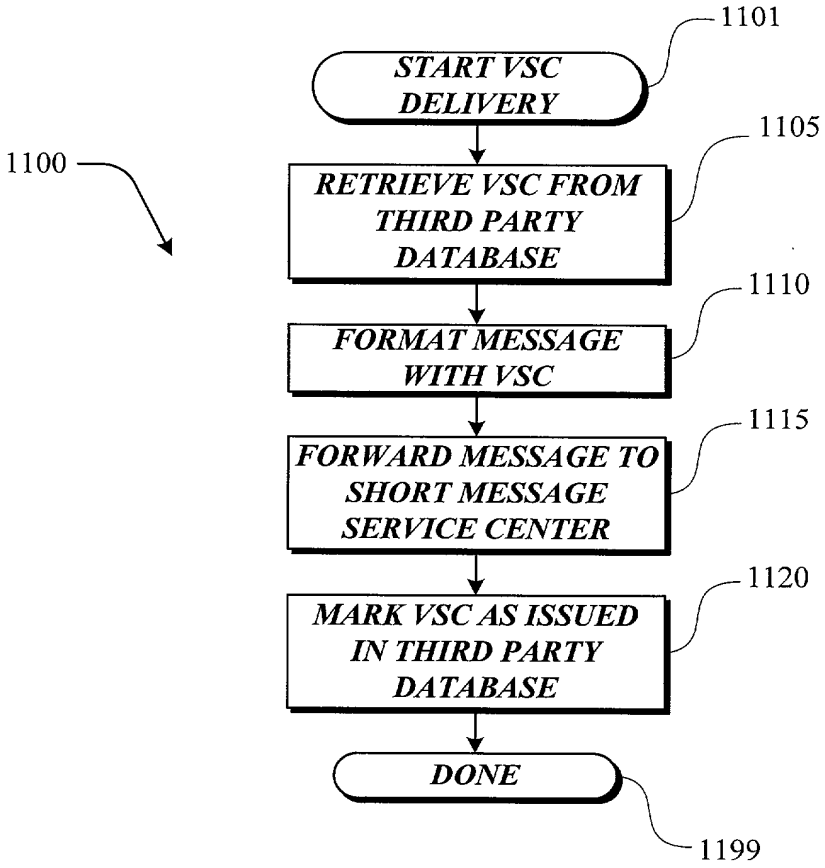
1100
START VSC DELIVERY
1101
RETRIEVE VSC FROM THIRD PARTY DATABASE
1105
FORMAT MESSAGE WITH VSC
1110
FORWARD MESSAGE TO SHORT MESSAGE SERVICE CENTER
1115
MARK VSC AS ISSUED IN THIRD PARTY DATABASE
1120
DONE
1199

Fig.11.

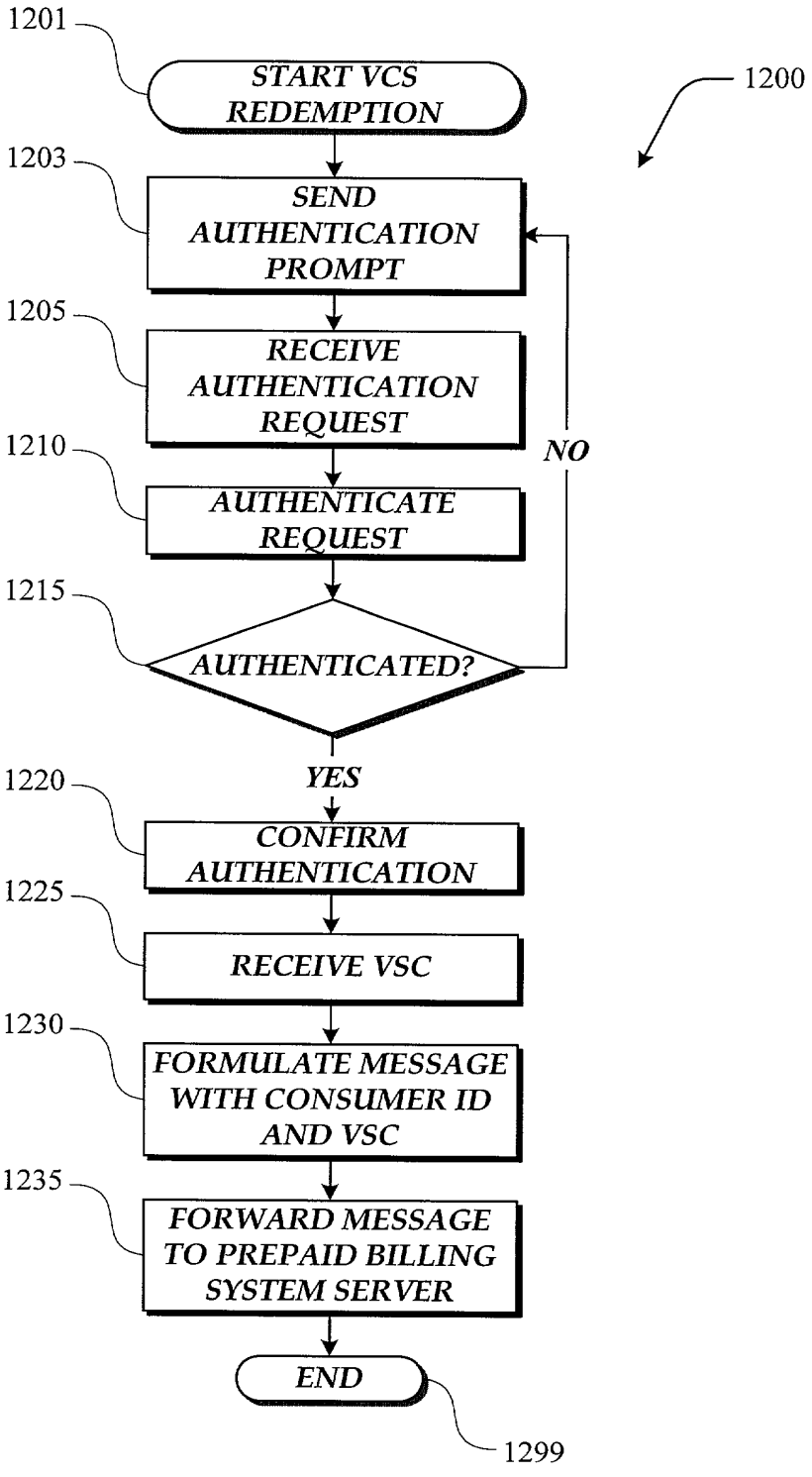
1201
START VCS REDEMPTION
1200
1203
SEND AUTHENTICATION PROMPT
1205
RECEIVE AUTHENTICATION REQUEST
1210
AUTHENTICATE REQUEST
1215
AUTHENTICATED?
NO
YES
1220
CONFIRM AUTHENTICATION
1225
RECEIVE VSC
1230
FORMULATE MESSAGE WITH CONSUMER ID AND VSC
1235
FORWARD MESSAGE TO PREPAID BILLING SYSTEM SERVER
END
1299

Fig.12.

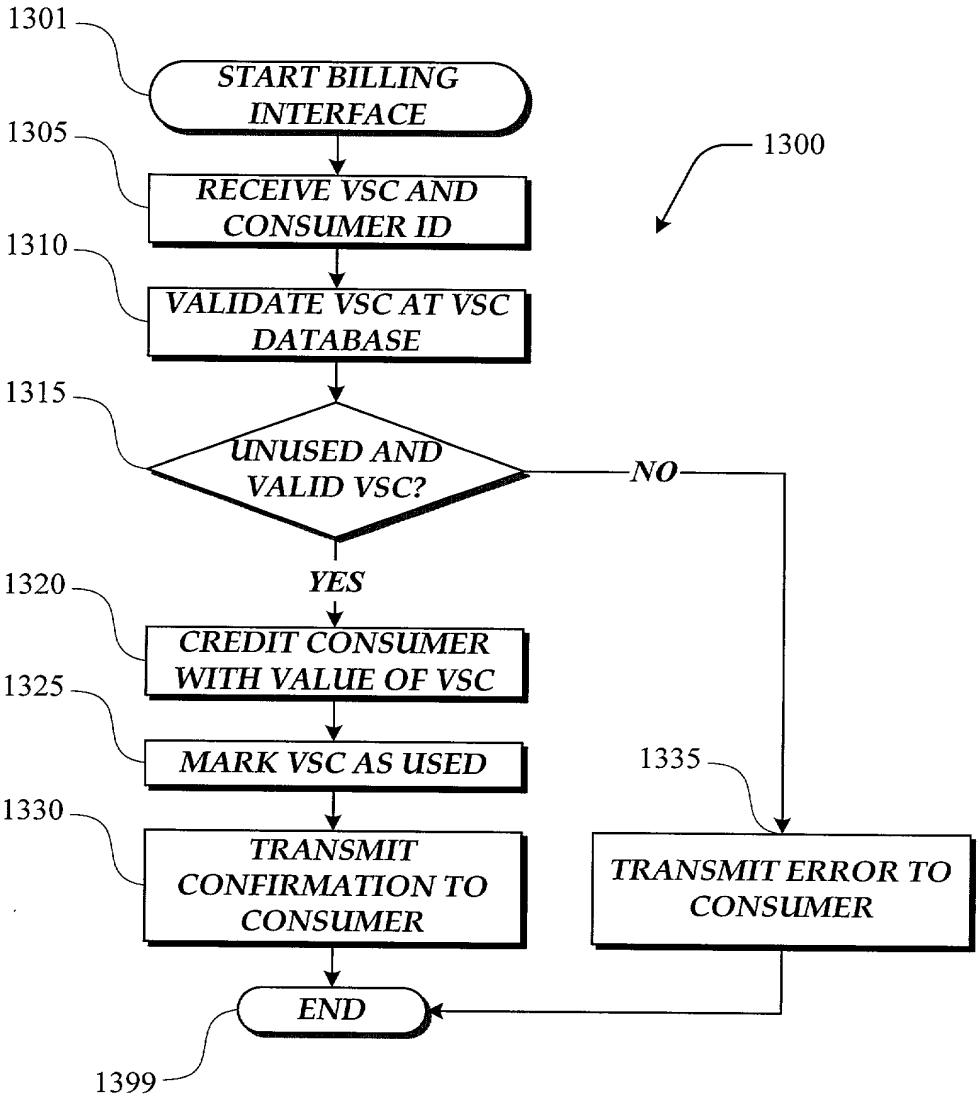
1301
START BILLING INTERFACE
1305
RECEIVE VSC AND CONSUMER ID
1300
1310
VALIDATE VSC AT VSC DATABASE
1315
UNUSED AND VALID VSC?
NO
YES
1320
CREDIT CONSUMER WITH VALUE OF VSC
1325
MARK VSC AS USED
1335
1330
TRANSMIT CONFIRMATION TO CONSUMER
TRANSMIT ERROR TO CONSUMER
END
1399

Fig.13.

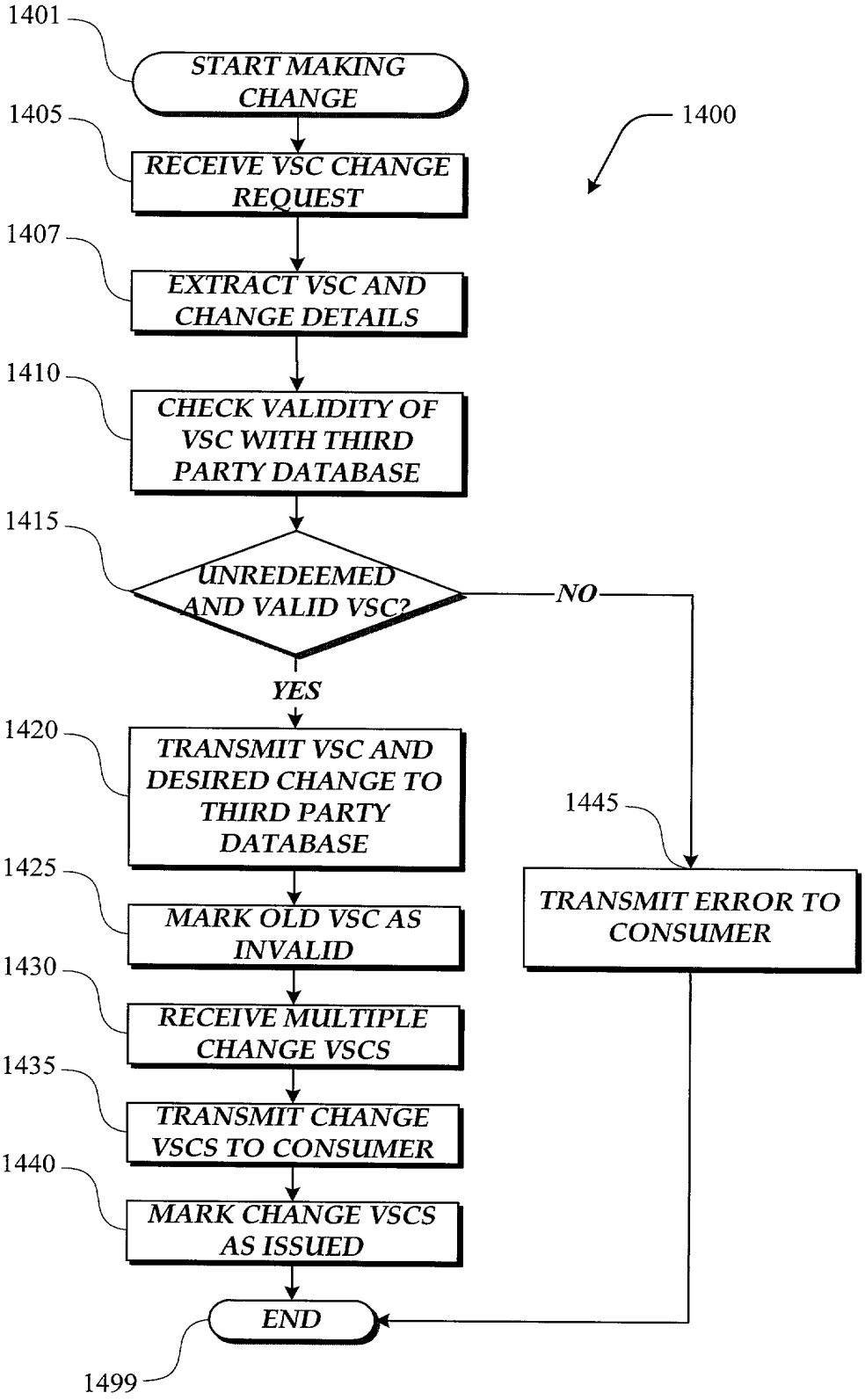
1401
START MAKING CHANGE
1405
RECEIVE VSC CHANGE REQUEST
1400
1407
EXTRACT VSC AND CHANGE DETAILS
1410
CHECK VALIDITY OF VSC WITH THIRD PARTY DATABASE
1415
UNREDEEMED AND VALID VSC?
NO
YES
1420
TRANSMIT VSC AND DESIRED CHANGE TO THIRD PARTY DATABASE
1445
TRANSMIT ERROR TO CONSUMER
1425
MARK OLD VSC AS INVALID
1430
RECEIVE MULTIPLE CHANGE VSCS
1435
TRANSMIT CHANGE VSCS TO CONSUMER
1440
MARK CHANGE VSCS AS ISSUED
END
1499

Fig.14.

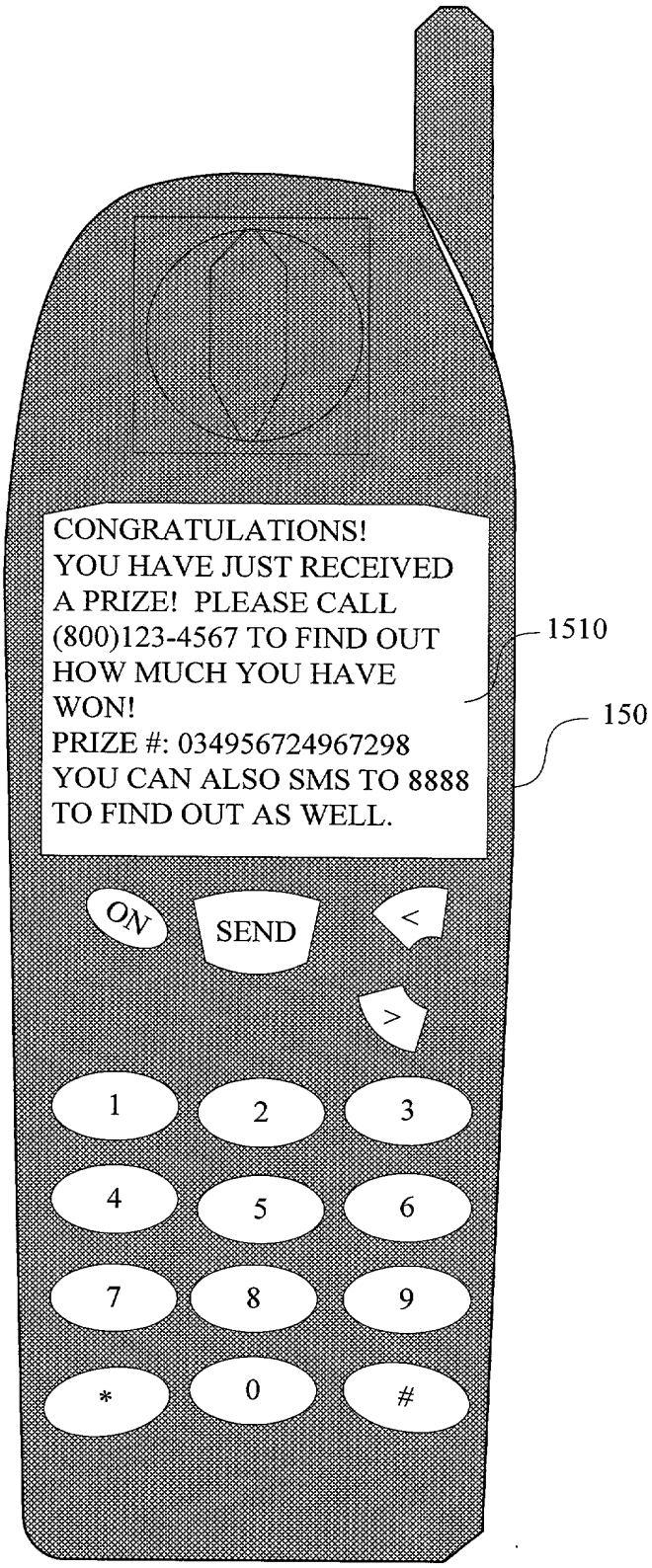

Fig.15.

Express Mail Label No. EV 339 933 425 US

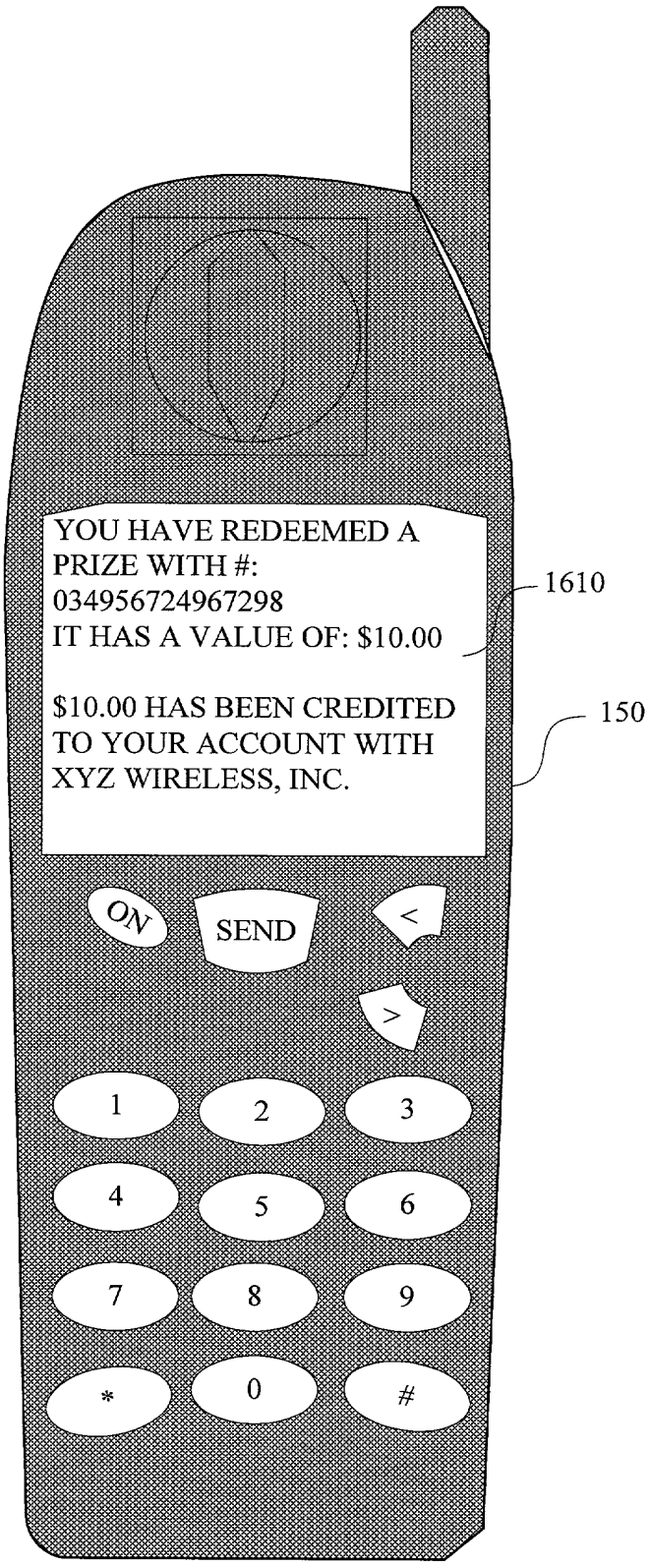
YOU HAVE REDEEMED A PRIZE WITH #:
034956724967298
IT HAS A VALUE OF: $10.00
$10.00 HAS BEEN CREDITED TO YOUR ACCOUNT WITH XYZ WIRELESS, INC.
1610
150
ON
SEND
<
>
1
2
3
4
5
6
7
8
9
*
0
#

Fig.16.